



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,019	11/19/2003	Patrick C. St. Germain	SSS-109	6702
7590 12/29/2005			EXAMINER	
OLSON & HIERL, LTD. 36th Floor 20 North Wacker Drive Chicago, IL 60606			HAUGLAND, SCOTT J	
			ART UNIT	PAPER NUMBER
			3654	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/717,019	ST. GERMAIN ET AL.	
	Examiner	Art Unit	
	Scott Haugland	3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language of claim 10, lines 13-14 appears to be inaccurate since the motor would have to generate a finite torque to balance the tension in the web when the dancer arm 16 is stationary. The first paragraph of page 5 of the specification refers only to a component of the total torque that is applied by the motor that balances the acceleration of the dancer roll. The second paragraph of page 5 clarifies this.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cote (U.S. Pat. No. 6,547,707) in view of Rajala (U.S. Pat. No. 5,659,229).

Cote discloses a web tensioning device comprising: a base (frame associated with axis 15), a dancer arm 14 having a free end portion with a dancer rotatably mounted on it, a servo motor 17 for pivotally positioning the dancer arm by applying a torque, and a controller (Fig. 2) for the servo motor.

Cote does not disclose that the torque applied by the servo motor is substantially the same as the force of the dancer arm acceleration or that it is increased or reduced by this force.

Rajala teaches controlling a dancer roll so as to compensate for the effects of acceleration of the dancer roll by detecting the magnitude of the acceleration and applying a torque that is increased or reduced over that required in absence of acceleration of the dancer roll by an amount substantially the same as the force corresponding to the dancer roll acceleration.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Cote with an angular position sensor to detect the acceleration of the dancer roll and to apply a torque adjusted by an amount substantially the same as the force corresponding to the dancer roll acceleration as taught by Rajala to improve control over the web tension. The sensor used to determine the position of the dancer roll of Cote is necessarily an angular position sensor since the position of the

Art Unit: 3654

dancer roll determines its angular position. The force applied to the dancer roll of the modified apparatus of Cote is seen to be the same as that in Applicants' apparatus.

With regard to claim 11, any position sensor including that taught by Rajala is seen to be an encoder. The sensor is necessarily associated with the fixed end portion of the dancer arm.

With regard to claim 13, Cote discloses using an electric motor (col. 3, line 33).

With regard to claim 14, it would have been obvious to use a limited angle electric motor to drive the dancer arm of Cote due to the limited range of movement of the dancer arm.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cote (U.S. Pat. No. 6,547,707) in view of Rajala (U.S. Pat. No. 5,659,229) as applied to claims 10 and 11 above, and further in view of Kawabata et al (U.S. Pat. No. 6,024,319).

Cote does not disclose an incremental rotary optical encoder.

Kawabata et al teaches using an optical sensor to detect the angular position of a dancer arm in a web feeding apparatus.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Cote with an optical angular position sensor as taught by Kawabata et al to detect position and acceleration of the dancer roll as taught by Kawabata et al to reduce the number of moving parts in the apparatus and, thereby, improve reliability. The optical sensor taught by Kawabata et al is seen to be an

incremental rotary optical encoder since it is capable of detecting angular increments of rotary motion of the dancer arm.

Response to Arguments

Applicants' arguments filed 8/10/05 have been fully considered but they are not persuasive.

Applicants' argue that Cote does not anticipate the invention now claimed since Cote does not determine substantially instantaneously the acceleration of the dancer arm and apply appropriate torque to counterbalance the acceleration force so that the dancer appears to have zero mass.

However, Rajala teaches compensating for the acceleration of a dancer roll in computing a force to be applied to the dancer roll to improve web tension control. The force applied to the dancer roll when it is accelerating is reduced or increased (depending on the direction of acceleration) from the force required to balance the tension in the web absent acceleration of the dancer. It would have been obvious to apply the teachings of Rajala to the web feeder of Cote by providing a sensor for detecting the angular acceleration of the dancer roll of Cote and using the detected acceleration to calculate an appropriate torque to be applied to the servo motor acting on the dancer roll. In accordance with the teachings of Rajala, this would improve the precision of control of the tension in the web.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. The new grounds of rejection were necessitated by the language added to the last two lines of claim 10. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (571) 272-6945. The examiner can normally be reached on Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3654

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sjh
sjh
12/12/05

Kathy Matecki

**KATHY MATECKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600**